Abstract

Association of ethnicity with Kawasaki disease related to SARS-CoV-2 infection

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Abstract:

Background:

It has been suggested that children and infants can develop Kawasaki-like disease in response to a SARS-CoV-2 infection and that children of African descent are over-represented among cases. The aim of the current study was to compile and quantify the available evidence for an association between African, Asian, or other non-European genetic background and COVID-19-related Kawasaki-like disease in children and infants.

Methods:

LitCovid was searched on June 23 with the keyword "Kawasaki", to identify all publications reporting on cases of Kawasaki-like disease, potentially related to SARS-CoV-2 infection. Authors were contacted for additional information on ethnicity of patients, and control groups, if necessary. Analyses were stratified by geographical region. Several sensitivity analyses were performed to assess the potential impact of publication bias and selection bias, in the selection of control groups.

Results:

44 potentially relevant papers were identified, of which 18 reported on one or more cases of Kawasaki-like disease, linked to SARS-CoV-2 infection. Eight papers were included in the primary analyses, including 73 cases from nine distinct geographical regions. In comparison to children of European origin, the relative risk for developing Kawasaki-like disease after SARS-CoV-2 infection was 15 (95% confidence interval (CI): 7.1 to 32) for African, 11 (CI: 2.2 to 57) for Asian, and 1.6 (CI: 0.58 to 4.2) for other ethnic background. All sensitivity analyses showed similar results, suggesting the potential impact of bias to be limited.

Conclusions:

Pediatricians should be aware of the fact that the risk of COVID-19-related Kawasaki-like disease is severely increased in children of African descent.

Biography:

Rutger Anton Middelburg is an assistant professor in epidemiology, a lecturer in research methodology and the regional coordinator for the BCG-PRIME trial; an RCT, investigating BCG-vaccination and its potential protective effect against COVID-19 in frail elderly. His main interests are under-researched groups, like children and elderly, and personalized medicine. Since obtaining his PhD, Rutger has spent 8 years in clinical transfusion research and methodological development. After a short spell working in research ethics, the COVID-19 crises brought Rutger back to clinical epidemiology. He is currently leading several research projects on the topic of SARS-CoV-2 and COVID-19.

Publication of speakers:

1. Judith G. Middelburg, Thrombocytopenia and bleeding in myelosuppressed transfusion-dependent patients: a simulation study exploring underlying mechanisms, Published online 2018 Apr 11. Doi: 10.2147/CLEP.S149926; 2018; 10: 401–411.